The Vegetation of Maungapohatu.

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In this account of a visit paid in March, 1930, to the summit of the botanically unexplored mountain named Maungapohatu, situated in the Urewera country (East Cape Bot. Dist.), we describe briefly the primitive and induced plant communities seen. It is hoped that this description, incomplete as it is, together with a list of the species collected, will help to bridge the gap in the present knowledge of the high mountain vegetation and flora between the more northerly Mount Hikurangi of greater altitude (1710 m.) and the Kaimanawas to the south.

The mountain lies north of Lake Waikaremoana, the approach being from the highest point on the new Rotorua-Te Whaiti-Wairoa Road, 17.6 kilometres north-west of the lake. A bridle track leads from this Papatotara saddle some 16 kilometres, through *Nothofagus* and *Beilschmiedia tawa* forest, according to altitude, to the Maori settlement of Maungapohatu—Rua's stronghold. This is about 750 metres above sea-level, and is dominated by the mountain of the same name (c. 1359 m.), which forms the culminating point of one of the many interknit ranges of the Huiarau. On the west, north, and east, the mountain rises from the forest in precipitous lime-stone cliffs, grotesquely sculptured, with immense flat-topped pillars standing out from the main mass. In order to gain access to the summit it is perhaps necessary, and at least customary, to skirt the base of the abrupt northern face and so attack the terminal part of the mountain from the eastern side remote from the village. The track rises in the course of this last 10 or 11 kilometres to 1,050 metres before the actual ascent begins. It then turns sharply upwards, a series of rock ledges being scaled with the help of twisted roots, and so the top of the main ridge is reached. This is followed for some distance before crossing a broad, shallow, easterly valley, on the northern flank of which the track peters out on the comparatively level stretch extending to the very edge of the cliffs where the trig station stands.

It is important to note that in the whole of this area no sign was seen of deer, wild pigs or cattle, considered very common in the rugged Urewera country, or of the damage one might confidently expect of them here. Bird song was occasionally heard, otherwise the stillness was broken only on the summit by the monotonous hum of innumerable blowflies.

The first part of the route after the clearings and burns of the settlement are passed, traverses a narrow fringe of sub-tropical rain-forest such as is characteristic of lower slopes

throughout the Urewera country. *Beilschmiedia tawa* is dominant, accompanied by magnificent trees of *Dacrydium cupressinum, Podocarpus spicatus* and *Metrosideros robusta,* all considerably taller than the general level of the forest, while large areas, especially in gullies, show almost pure *Fuchsia excorticata.* Cockayne (1928 p. 4) writes concerning this species as it occurs in the Urewera country, "there are considerable stands . . . . but such are quite primitive and represent a stage of forest development or retrogression." *Hoheria sexstylosa* and *Aristotelia serrata* are especially plentiful in indigenous-induced communities about streams and old tracks, while the small creeping herb *Pratia angulata,* because of its abundance of showy white flowers and purple fruits, was, at the time of our visit, the most conspicuous floor-species.

This "tawa forest" very quickly here gives place to the higher mountain beech association of *Nothofagus Menziesii* and *Nothofagus fusca,* co-dominant, and characterised by a rich undergrowth of *Blechnum discolor, Leptopteris superba, Wintera colorata, Ixerba brexioides, Melicytus lanceolatus, Fuchsia excorticata, Nothopanax* spp., *Griselinia littoralis, Coprosma* spp., etc. *Elytranthe Colensoi,* in places still bearing flowers, was commonly parasitic on the beeches. The tuft-tree *Cordyline indivisa* becomes conspicuous with higher altitude.

At about 1,050 metres *Nothofagus fusca* disappears, *N. Menziesii* being from there dominant up to 1,260 metres altitude. Numerous trees about 45 centimetres in diameter of *Nothopanax Colensoi,* and *N. Sinclairii* make contrasting patches much inferior in height in openings between the southern beeches. An old clearing where surveyors had camped was taken up mainly by *Arundo conspicua,* a form of *Hebe salicifolia* and species of *Coprosma.* Here occurred a striking swarm of hybrid coriarias, including *C. arborea* and a form agreeing with Petrie's specimens of *C. thymifolia* var. *undulata* in the Dominion Museum. On the forest floor *Ourisia macrophylla* is abundant, *Ranunculus insignis* attains great size and beauty among rocks, and a small mat of the dainty *Jovellana repens* was seen. Species of *Olearia* form a large proportion of the second tier of vegetation, *O. Colensoi* becoming increasingly common until at c. 1,200 metres it was observed to form small colonies. At about this height, too, *Nothofagus Menziesii* becomes lower, its gnarled and moss-covered limbs being sufficiently open to permit the development in the undergrowth of the divaricating shrubs, *Pittosporum rigidum* and *Suttonia divaricata,* a marked increase of *Coprosma foetidissima,* and, as a lower tier, the grass *Microlaena avenacea* in place of the *Leptopteris, Enargea, Libertia,* etc., of the forest. From this timberline fringe the transition to subalpine-scrub is quite abrupt, *Nothofagus Menziesii* dropping out and adult *Olearia Colensoi* and *Dacrydium biforme* appearing almost simultaneously.

On the main ridge one association appeared to be primitive, the *Olearia* subalpine-scrub which still occupies large areas as a pure association, its uniformly greyish, slightly hummocky roof showing neither stem nor trunk in sharp contrast with the rich

golden green of the taller pyramidal cupressoid *Dacrydium biforme* which merges into co-dominance locally, becoming, in fact, dominant on the top of the ridge where it is narrow and exposed.

Over a large area of the shallow easterly valley this primitive *Olearia-Dacrydium* association was represented by bleached, widely branching limbs of dead *Olearia* and stouter bare reddish trunks of *Dacrydium* still conspicuous above a dense, almost impenetrable scrub, with the *Coprosma*-form dominating. There was no transition girdle between this induced *Coprosma* and the primitive living *Olearia* association, the junction of the two forming a distinct line, the direction of which was apparently influenced by proximity to water, since the *Olearia* projects in a long tongue into the *Coprosma* near the little stream (reduced at this time of the year to a chain of deep waterholes) which drains the valley.

Judging by the presence of dead trunks, it appears that this *Olearia* scrub had, at one time, covered the whole summit of the mountain, except where bog or rock occurred. Though there were few charred branches etc., to support the theory, there can be little doubt that the destruction of the primitive vegetation was due to fire. It has been replaced by two different though intergrading associations, that dominated by *Coprosma* already mentioned, and herbfield.

This latter occurs about the trig station on a fairly level area cut by approximately parallel depressions, at times almost trenches, running from south-west, north-east. The largest of these depressions is broad and shallow, about 150 metres by 30 metres, and is occupied at its higher south-west end by *Sphagnum* bog. At least one other—probably more beyond the area explored—contains a shallow tarn (30 metres by 10 metres), bordered on one side by the *Olearia* scrub and on the other by an induced community containing species representative of both *Coprosma* scrub and herbfield, but with *C. depressa* perhaps dominant. The outlet of this tarn is evidently by seepage into an adjacent parallel trench, which, however, itself ends blindly, not in any stream.

Nearby, almost on the edge of the bog, there is a regular conical basin, some 3 metres across and of approximately the same depth, evidently at times almost filled with water, but at the time of our visit lined to within a couple of feet of the top with a fine net of filamentous green algae. *Ourisia macrophylla* formed the lowest girdle of seed-plants in the basin, while *Danthonia* tussocks clothed the actual rim. These depressions are evidently the sinkholes regarded by McKay (1895, p. 157) as due to solvent action on limestone of carbon-dioxide in solution.

Of the flat areas the two largest are a comparatively broad one, perhaps 100 metres wide, separating the shallow easterly valley and the bog, and another, somewhat narrower, on which the trig station stands. The terminal rock faces are not sheer, but cut by a series of clefts and ledges, offering ample foothold

for herbaceous and semi-woody plants, and, in places, an easy descent for those studying them.

From the base of these cliffs stretches a sheltered valley, opening towards the north-east and enclosed on the far side by a lower rock wall joining the main range to the west. Huge irregular rock masses occur here and there on the valley floor, the whole of which showed the dead trunks denoting the former existence of *Olearia* scrub. The association induced by the destruction of the latter, perhaps because of its more sheltered situation, here contained a considerable proportion of *Griselinia littoralis* and a profusely-flowering large leaved form of *Hebe*, belonging to the *H. salicifolia* group.

The plant communities of the mountain may therefore be divided into the following formations:—

(1) Forest. (a) Tawa. (b) Southern-beech. Both types being common to the whole Urewera country, need no further description, though it might be remarked that no *Nothofagus cliffortioides* was seen even at the highest altitudes. *Libocedrus Bidwillii* also appeared to be absent.

(2) Subalpine-scrub. (a) *Olearia Colensoi.* Pure *Olearia Colensoi* association occupies large areas of the upper parts of the mountain and evidently originally was considerably more extensive. It is closed and possesses very little undergrowth, *Hymenophyllum multifidum* being almost the only species. The general height of the *Olearia* is about 1.8 metres.

An *Olearia Colensoi-Dacrydium biforme* sub-association forms relatively small communities enclosed within, but distinguished from the pure *Olearia* community by the presence of the physiognomically-important *Dacrydium biforme* in fairly large numbers. Beneath, on the narrow exposed ridge, was an open undergrowth of *Gahnia procera, Astelia nervosa* var. *sylvestris, Pittosporum rigidum, Suttonia divaricata,* species of *Nothopanax,* and *Dracophyllum longifolium,* or, alternatively, a scanty floor covering, nowhere more than 60 cm. high, of *Phyllocladus alpinus, Gaultheria* spp., and the herbaceous *Gentiana bellidifolia.*

(b) Indigenous-induced scrub. This covers, as already mentioned, fairly large areas, except on the flattest parts of the mountain top, the general height being about 1.2 metres, with coprosmas dominant, *C. foetidissima* and *C. pseudocuneata* being almost equal in size and number of individuals, the quantity of *C. depressa* increasing towards the margin, i.e., near the track or at the junction with herbfield. Throughout and locally forming almost pure colonies were gaultherias presenting a series of forms from *G. rupestris* to *G. antipoda*—obviously a hybrid swarm. Two species of *Nothopanax (N. Colensoi* and *N. Sinclairii), Olearia arborescens, Astelia nervosa* var. *sylvestris, Polystichum vestitum, Histiopteris incisa,*

Blechnum procerum, a form of *Acaena Sanguisorbae*, and *Ourisia macrophylla* were common constituents, while *Griselinia littoralis* and a variety of *Hebe salicifolia* were particularly important in the similar taller community of the deep rocky valley below the trig station. *Olearia Colensoi* seedlings were frequent throughout except where *Coprosma depressa* formed a deep tangle.

(3) Herbfield. This was characterised throughout by the presence of species common to the formation, e.g., *Celmisia spectabilis, Ranunculus insignis, Anisotome aromatica, Oreomyrrhis andicola* (an apparently constant form of this linneon), *Euphrasia tricolor, Pentachondra pumila, Aciphylla squarrosa*, etc., with *Olearia* seedlings and shrubs of indigenous-induced scrub species more or less widely separated. *Olearia ilicifolia, Cassinia Vauvilliersii* and *Hebe buxifolia* also occurred here. *Dracophyllum longifolium* in places and *Danthonia Raoulii* were physiognomic, a special division being that at the drier end of the depression, where *Sphagnum* bog occurred. Here, tussock and ball-like *Hebe buxifolia* were co-dominant, moss and true herbfield species covering the ground in the comparatively small spaces between them. Occurring on the most level parts, but extending down the clefts of the terminal cliff face and occupying rock ledges, was a community which approached fellfield in floristic composition and in its open nature. *Geum parviflorum* and *Wahlenbergia albomarginata* were seen only in this part, while relatively large areas of dry friable soil, thinly covering the underlying rock, were quite bare of vegetation.

(4) Bog. This is confined, as regards the part of the mountain investigated, except for a few square metres at the junction of forest and subalpine scrub, to the one depression already described.

This is typical *Sphagnum* bog, sopping wet and cold, containing large quantities of *Carpha alpina* and *Schoenus pauciflorus* and rounded cushions, about 60 centimetres in diameter, of *Oreobolus pectinatus*. It merged gradually with increase of tussock into the *Hebe*-tussock herbfield. The whole channel was bordered on either side, and the bog limited at its south-west end by *Coprosma* scrub, in places giving way, only a few feet from the bog, to *Olearia Colensoi* scrub.

SUMMARY.

A description of the vegetation is given, showing briefly the altitudinal range of species and plant communities. Though there is little that could not have been predicted, interesting points are (1) the absence of *Nothofagus cliffortioides* and *Libocedrus Bidwillii*, (2) the presence of true herb-field and (3) the extent and nature of indigenous-induced summit communities. In the appended list some attempt is made to indicate the frequency of species in their respective communities.

LIST OF SPECIES COLLECTED.

Abbreviations: d., dominant; c-d., co-dominant; a., abundant; f., frequent; o., occasional; r., rare; l., local; ‡, present, frequency undetermined; fl., flowering; fr., fruiting. Surveyor's clearing—in southern beech at c. 1,050 m.

SPECIES.	COMMUNITY.		REMARKS.
LICHENES.			
Cladonia retipora Floethe	Herbfield	f.	
MUSCI.			
? *Sphagnum subcuspidatum* C.M. et Warmst	Summit bog	d.	
Dicranoloma pungens (H.f. et W.) Par.	Herbfield	a.	
Rhacomitrium hypnoides (L.) Lindb. var. *pruinosum* H.f. et W. ..	Summit	f.	
Rhizogonium mnioides (Hook.) Schimp.	Herbfield	‡	
Bartramia papillata H.f. et W. ..	Summit rocks	‡	With *Hymenophyllum multifidum.*
Breutelia pendula (Hook.) Mitt. ..	Summit bog	f.	With *Shoenus pauciflorus.*
	Summit rocks	f.	With *Deyeuxia setifolia.*
Rhacocarpus australis (Hampe.) Par.	Herbfield	‡	
Ptychomnion aciculare (Bird.) Mitt	Summit	‡	
Drepanocladus uncinatus (Hedw.) Warmst	Herbfield	a.	
Polytrichum juniperinum Willd. ..	Herbfield	v.a.	fr., very dry.
Dendroligotrichum dendroides (Hedw.) Broth.	Beech forest	o.	
	Summit stream	‡	One patch seen.
HYMENOPHYLLACEAE.			
Hymenophyllum sanguinolentum (Forst. f.) Swartz	Beech forest	o.	
H. demissum (Forst. f.) Swartz ..	Beech forest	o.	On rock.
H. multifidum (Forst. f.) Swartz ..	Beech forest	f.	Epiphytic.
	Olearia scrub	a.	Terrestrial.
	Summit rocks	a.	Terrestrial.
Trichomanes venosum R.Br. ..		‡	
DICKSONIACEAE.			
Dicksonia fibrosa Col.	Tawa forest	l.a.	
D. lanata Col. var. without trunk ..	Beech forest	f.	
CYATHEACEAE.			
Hemitelia Smithii Hook.	Forest	f.	
Alsophila Colensoi Hook. f. ..	Beech forest	‡	
POLYPODIACEAE.			
Polystichum vestitum (Swartz) Presl.	Tawa forest	f.	
	Beech forest	f.	
	Induced scrub	o.	
Asplenium lucidum Forst. f. ..	Beech forest	o.	
A. bulbiferum Forst. f.	Beech forest	o.	
Blechnum Patersoni (Spreng.) Mett. var. *elongata* (Hook. et Bah.)	Beech forest	l.a.	
Blechnum discolor (Forst. f.) Keys	Beech forest	a.	
B. penna-marina (Poir.) Kuhn. ..	Summit bog	o.	In *Oreobolus* cushions.
B. procerum (Forst. F.) S. G. Anders	Induced scrub	a.	
B. fluviatile (R.Br.) Salom	Tawa forest	a.	
	Beech forest	f.	
Hypolepis millefolium Hook. ..	Induced scrub	l.f.	Margin of bog.
Histiopteris incisa (Thumb.) J. Sm.	Induced scrub	o.	Blackened as if by frost.
OSMUNDACEAE.			
Leptopteris hymenophylloides (A. Rich.) Presl.	Tawa forest	a.	
	Lower beech forest	f.	
L. superba (Col.) Presl.	Beech forest	a.	
	Summit stream	‡	Small plants seen.
LYCOPODIACEAE.			
Lycopodium fastigiatum R. Br. ..	Herbfield	f.	
L. scariosum Forst. f.	Tawa forest	‡	Clearings.
	Surveyor's clearing	‡	

SPECIES.	COMMUNITY.		REMARKS.
PODOCARPACEAE.			
Podocarpus totara A. Cunn.	Beech forest	r.	
	Tawa forest	o.	
P. ferrugineus D. Don.	Tawa forest	a.	
P. spicatus R. Br.	Tawa forest	a.	
P. dacrydioides A. Rich.	Tawa forest	a.	
Dacrydium biforme (Hook.) Pilger	*Olearia* scrub	l.c-d.	
D. Bidwillii Hook. f. ex T. Kirk	Upper beech forest		
D. cupressinum Sol. ex Forst. f.	Tawa forest	v.a.	
Phyllocladus alpinus Hook. f.	*Olearia-Dacrydium* scrub	l.a.	Stunted.
GRAMINEAE.			
Microlaena avenacea (Raoul) Hook f.	Upper beech forest	l.a.	
Hierochloe Fraseri Hook. f.	Summit	‡	Flowering.
Deyeuxia setifolia Hook. f.	Summit rocks	f.	fr.
Danthonia Raoulii Steud. var.	Herbfield	a.	fr.
Arundo conspicua Forst. f.	Surveyor's clearing	l.d.	fr.
Poa anceps Forst. f.	Summit	‡	fl.
Poa caespitosa Forst. f.	Summit	‡	fr.
P. imbecilla Forst. f.	Summit rocks	f	fr.
Festuca sp.	Summit	‡	
CYPERACEAE.			
Scirpus inundatus (R.Br.) Poir. var. *verus* Carse	Summit bog	‡	fl.
Carpha alpina R.Br.	Summit bog	v.a.	fr.
Schoenus pauciflorus Hook. f.	Summit bog	a.	fr.
Gahnia procera Forst.	*Olearia-Dacrydium* scrub	f.	fl.
Oreobolus pectinatus Hook. f.	Summit bog	a.	fr., deep cushions.
Uncinia caespitosa Boott. var. *minor* Kukenth.	Beech forest	‡	c. 1,110 m.
U. unciniata Kukenth. var.	*Hebe*-tussock	f.	fr.
JUNCACEAE.			
Luzula campestris D.C.	Herbfield	‡	Several puzzling forms.
LILIACEAE.			
Enargea parviflora (Hook. f.) Skottsb.	Beech forest	o.	l.a. at timber line Fl., fr.
Cordyline indivisa (Forst. f.) Steud.	Beech forest	f.	
Astelia nervosa Banks et Sol. var. *silvestris* Ckn. et Allan	*Olearia-Dacrydium* scrub	f.	fr.
	Induced scrub	o.	
Phormium Colensoi Hook. f.	Beech forest	r.	On rock.
	Summit rock	f.	
Chrysobactron Hookeri Col.	Herbfield	‡	Near bog, fr.
	Summit rocks	o.	fr.
IRIDACEAE.			
Libertia pulchella Spreng.	Beech forest above 900 m.	o.	fr.
ORCHIDACEAE.			
Thelymitra sp.	Herbfield	o.	fr.
Prasophyllum Colensoi Hook. f.	Herbfield	o.	fr.
Pterostylis Banksii R.Br.	Induced scrub	r.	Seen in one place, fl.
Corysanthes triloba Hook. f.	Beech forest c. 1,080 m.	‡	
C. macrantha Hook. f.	Summit rocks	‡	One colony seen, fl.
FAGACEAE.			
Nothofagus Menziesii (Hook. f.) Oerst.	Forest, 840-1,050 m.	c-d.	
	1,050-1,260 m.	d.	
N. fusca (Hook. f.) Oerst	Forest, 840-1,050 m.	c-d.	
URTICACEAE.			
Urtica incisa Poir.	Beech forest	l.a.	
Australina pusilla Gaud.	Tawa forest	l.a.	Under *Fuchsia*.
LORANTHACEAE.			
Elyranthe Colensoi (Hook. f.) Engl.	Beech forest	f.	On beech fl. & fr.
Tupeia antarctica (Forst. f.) Cham. et Schlch.	Tawa forest	f.	On *Nothopanax arboreum*, second growth, fruiting.
RANUNCULACEAE.			
Ranunculus insignis Hook. f.	Beech forest above 1,050 m.	o.	
	Induced scrub, Herbfield	f.	
	Summit rocks	a.	
R. hirtus Banks et Sol. ex Forst. f.	Surveyor's clearing	‡	

SPECIES.	COMMUNITY.		REMARKS.
MAGNOLIACEAE.			
Wintera colorata (Raoul) Chm. ..	Forest c. 735-1,170 m.	f.	
LAURACEAE.			
Beilschmiedia tawa (A. Cunn.) Benth. et Hook.	Forest—840 m.	d.	
CRUCIFERAE.			
Cardamine heterophylla (Forst. f.) O. E. Schulz.	Herbfield	f.	fl. & fr.
SAXIFRAGACEAE.			
Quintinia serrata A. Cunn.	Beech forest—1,050 m.	o.	
Ixerba brexioides A. Cunn.	Beech forest—1,050 m.	a.	fr.
PITTOSPORACEAE.			
Pittosporum tenuifolium Banks et Sol. ex Gaertn.	Tawa forest	‡	Form with very small capsules.
Pittosporum sp.	Tawa forest	f.	Tree 6 m. high with large light green leaves and solitary axillary capsules.
P. rigidum Hook. f.	1,170-1,275 m.	f.-a.	
CUNONIACEAE.			
Weinmannia racemosa Linn. f. ..	Tawa forest	f.	fr.
ROSACEAE.			
Rubus australis Forst. f.	Tawa forest	l.a.	fr. profusely.
	Surveyor's clearing	‡	
R. schmidelioides. A. Cunn. var. *coloratus* T. Kirk	Tawa forest	f.	Especially near road.
Geum parviflorum Sm.	Summit rocks	l.f.	
Acaena sanguisorbae Vahl. var. ..	Induced scrub	l.a.	Near track, Trig. station, etc.
	Herbfield	l.a.	
LEGUMINOSAE.			
Edwardsia tetraptera (Mill) W. R. Oliv.	Beech forest	‡	One plant seen on rock.
CORIARIACEAE.			
Coriaria arborea Lindsay	Surveyor's clearing	‡	fr.
	Summit rocks	‡	fr.
Coriaria thymifolia H. & B. var. ..	Lowland streams	a.	fr.
	Surveyor's clearing	‡	fr.
	Summit rocks	‡	fr.
Where these two forms occurred together hybridism was rife, many of the progeny having the undulate margins characteristic of the variety of *thymifolia* found in the Urewera country.			
ICACINACEAE.			
Pennantia corymbosa J. R. et G. Frost.	Lowland clearings	l.f.	fr.
ELAEOCARPACEAE.			
Elaeocarpus Hookerianus Raoul ..	Beech forest	‡	One juvenile plant c. 1,050 m.
Aristotelia serrata (Forst.) W. R. Oliv.	Tawa forest	l.a.	fr.
	Beech forest	‡	Noted at 1,110 m.
MALVACEAE.			
Hoheria sexstylosa Col.	Tawa forest	l.a.	fl.
VIOLACEAE.			
Viola filicaulis Hook. f.	Beech forest	f.	fl.
	Margin of summit bog	o.	fr.
Melicytus ramiflorus J. R. et G. Forst.	Forest 930 m.	o.	
M. lanceolatus Hook. f.	Beech forest	f.	
MYRTACEAE.			
Metrosideros robusta A. Cunn. ..	Tawa forest	o.	
M. Colensoi Hook. f.	Forest 900 m.	a.	
ONAGRACEAE.			
Epilobium erectum Petrie	Summit bog	o.	fr.
E. pedunculare A. Cunn.	Herbfield	f.	fr.
Fuchsia excorticata Linn. f. ..	Tawa forest	l.d.	fr.
	Beech forest	o.	
	Herbfield	o.	

SPECIES.	COMMUNITY.		REMARKS.
ARALIACEAE.			
Nothopanax simplex (Forst.) Seem.	Beech forest	‡	
N. Edgerleyi (Hook. f.) Harms ..	Forest	‡	
N. Sinclairii (Hook. f.) Seem.	Beech forest	f.	
	Olearia-Dacrydium scrub		
N. Colensoi (Hook. f.) Seem. ..	Induced scrub	f.	
N. arboreum (Forst. f.) Seem. ..	Lower forest	f.	
Schefflera digitata Forst.	Forest 1,110 m.	‡	
UMBELLIFERAE.			
Schizeilema Allanii Cheesem. ..	Beech forest above 1,050 m.	o.	
	Herbfield	f.	fl. & fr.
Oreomyrrhis andicola Endl. ..	Herbfield	f.	fr.
Aciphylla squarrosa Forst.	Herbfield	f.	fr.
Anisotome aromatica Hook. f. ..	Herbfield	a.	fr.
CORNACEAE.			
Griselinia littoralis Raoul	Forest above 735 m.	o.	
	Induced scrub	o.-f.	
ERICACEAE.			
Gaultheria antipoda Forst. var. ..	Surveyor's clearing	‡	
	Herbfield	f.	
G. rupestris (Forst.) R. Br., crossing with *G. antipoda* and ? *G. depressa.*	*Olearia-Dacrydium* scrub	a.	One plant seen epiphytic on *D. biforme.* fl. & fr.
	Induced scrub	a.	fl. & fr.
	Rocky ledges	‡	fl. & fr.
EPACRIDACEAE.			
Pentachondra pumila (Forst. f.) R.Br.	Herbfield	l.a.	fl. & fr.
Cyathodes empetrifolia Hook. f. ..	Herbfield	o.	
Dracophyllum longifolium (Forst. f.) R.Br.	*Olearia-Dacrydium*	o.	fl.
	Herbfield	l.f.	Young.
MYRSINACEAE.			
Suttonia salicina Hook. f.	Tawa forest	‡	
S. divaricata Hook. f.	Timberline and *Olearia Dacrydium* scrub	a.	fr.
GENTIANACEAE.			
Gentiana bellidifolia Hook. f. ..	*Olearia-Dacrydium* scrub	f.	fl. & fr.
	Herbfield	f.	fl. & fr.
APOCYANACEAE.			
Parsonsia sp.	Tawa forest	f.	fr.
BORAGINACEAE.			
Myosotis Forsteri Lehm.	Beech forest	‡	fl.
Myosotis sp.	Summit rocks	‡	
Undetermined species of *amabilis-saxosa* group. Leaves crowded on semi-erect branched rhizomes resembling those of specimens collected by Aston at Titiokura, type locality of *M. saxosa,* and tentatively referred by Cheeseman to that species. In its larger size and nature of hairiness it approaches *M. amabilis.* Fls. not seen.			
SCROPHULARIACEAE.			
Jovellana repens (Hook. f.) Kranzl.	Beech forest	‡	fl. 1,140 m.
Hebe salicifolia (Forst. f.) Pennell	Lowland second growth	f.	fl.
	Surveyor's clearing	a.	fl.
	Induced scrub	o-a.	fl.
Hebe buxifolia (Benth.) Ckn. et Allan	Herbfield	l-a.	fl.
Veronica sp.	Herbfield	f.	Agrees with Colenso's specs. of *V. Olseni* in Cheeseman's Herbarium.
Ourisia macrophylla Hook.	Beech forest above 990 m.	f.	fr.
	Induced scrub	o.	fr.
	Herbfield	a.	fl.
Euphrasia tricolor Col.	Beech forest above 1,050 m.	r.	fl. In clearing and on rock.
	Herbfield	a.	fl.
RUBIACEAE.			
Coprosma grandifolia Hook. f. ..	Forest	‡	
C. tenuifolia Cheesem.	Forest	o.	
	Induced scrub	o.	fr.
	Summit rocks	‡	fr.
C. myrtillifolia Hook. f.	Beech forest	o.	
	Induced scrub	o.	fr.

SPECIES.	COMMUNITY.		REMARKS.
C. brunnea Ckn.	Surveyor's clearing	o.	fr.
	Induced scrub	o.	fr.
C. foetidissima Forst.	Beech forest	a.	
	Induced scrub	c.-d.	
C. foetidissima x. C. Colensoi, etc.	Beech forest	a.	
C. Banksii Petrie	Beech forest	‡	
C. pseudocuneata W. R. Oliv. ..	Induced scrub	c.-d.	fr.
C. depressa Col. ex. Hook. f. ..	Induced scrub	v.a.	Encroaching.
C. Colensoi Hook. f.	Beech forest	a.	
CAPRIFOLIACEAE.			
Alseuosmia quercifolia A. Cunn. ..	Tawa forest	‡	
CAMPANULACEAE.			
Pratia angulata (Forst. f.) Hook. f.	Forest—1,050 m.	a.	fl., fr.
Wahlenbergia albomarginata Hook. ..	Summit rocks	f.	fl.
STYLIDACEAE.			
Forstera Bidwillii Hook. f.	Summit bog	r.	fr.
COMPOSITAE.			
Olearia Colensoi Hook. f.	Subalpine scrub forest from 1,050 m.	d.	Regenerating all over summit.
O. aborescens (Forst. f.) Ckn. et R. M. Laing.	Induced scrub	f.	fl.
	Beech forest	o.	Seedlings.
O. capillaris Buch.	Summit	o.	fl.
	Surveyor's clearing	‡	
O. ilicifolia x arborescens (*O. macrodonta* Barker)	Beech forest	o.	Young plants.
O. ilicifolia Hook. f.	Herbfield	‡	Two plants seen.
O. rani (A. Cunn.) Ckn.	Beech forest	o.	Young plants.
Celmisia spectabilis Hook. f. ..	Herbfield	a.	fr.
Helichrysum bellidioides (Forst. f.) Willd.	Herbfield	a.	fl.
Cassinia Vauvilliersii (H. & J.) Hook. f.	Herbfield	‡	fl. One plant seen.
Craspedia uniflora Forst. f. var. ..	Herbfield	l.a.	fr.
	Beech forest	r.	fr. on rock.
Brachyglottis repanda Forst. ..	Beech forest	o.	Last noted at 1,110 m.
Senecio latifolius Banks et Sol. ex Hook. f.	Forest from 1,050 m.	o.	fl.
	Summit rocks	a.	fl.
S. Kirkii Hook. f. ex T. Kirk. ..	Beech forest	f.	Terrestrial.
S. elaeagnifolius Hook. f.	Beech forest above 1,050 m.	f.	Confined to forest.
Taraxacum sp.	Summit	o.	fl.

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